

BATTERY LIFE EXTENDING TECHNIQUE FOR  
MOBILE WIRELESS APPLICATIONS USING BIAS LEVEL CONTROL

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10 ABSTRACT OF THE DISCLOSURE

An operating voltage applied to a transmitter's power  
amplifier in a mobile wireless transceiver is dynamically  
controlled so as to improve the efficiency of the transmitter  
15 at all output power levels. In one embodiment, the bias  
current levels within the transmitter are also varied to  
optimize the efficiency of the transmitter at all output power  
levels. In a preferred embodiment, a highly efficient  
switching regulator is controlled by a control circuit to  
20 adjust the operating voltage and/or bias current for the power  
amplifier in the transmitter. The control circuit has as its  
input any of a variety of signals which reflect the actual  
output power of the transmitter, the desired output power, or  
the output voltage swing of the transmitter.

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